



MUSTARD AGENTS

Agent information:	Chemical warfare agents are toxic chemicals that can cause harm or death to people. These agents include sulfur mustard (H, HD, HT), lewisite, nitrogen mustard, mustard lewisite, and phosgene-oxime. Sulfur mustards are yellow to brown oily liquids with a slight garlic or mustard odor. Although volatility is low, vapors can reach hazardous levels during warm weather. Mustard agents are toxicologically part of a group of compounds known as vesicants or corrosives.
Transmission:	Primary exposure is inhalation or dermal absorption.
Signs and symptoms:	<p>Signs and symptoms vary, depending on the route and level of exposure.</p> <p>Signs: skin erythema and blistering, watery, swollen eyes; upper airways sloughing with pulmonary edema, metabolic failure, neutropenia, and sepsis, especially for sulfur mustard (late in exposure).</p> <p>Symptoms: burning, itching, or red skin; mucosal irritation (prominent tearing, and burning and redness of eyes), shortness of breath, nausea, and vomiting. Sulfur mustards are absorbed by the skin, causing erythema and blisters. Ocular exposure to these agents may cause incapacitating damage to the cornea and conjunctiva. Inhalation damages the respiratory tract epithelium and may cause death. Onset for lewisite is minutes; sulfur mustard is hours to days.</p>
Protective measures:	Utilize appropriate Level Personal Protective Equipment (PPE) as identified by the Environmental Protection Agency and Hazmat protocols. People whose skin or clothing is contaminated with sulfur mustard can contaminate rescuers by direct contact or through off-gassing vapor.
Evaluation:	Urine sample. The Division of Public Health will coordinate testing with a qualified laboratory.
Prophylaxis:	N/A

Emergency Medical Services and Preparedness Section
24/7 Emergency Contact Number: 1-888-295-5156
Contact Number: 302-223-2999



- Treatment:** There is no antidote for mustard agents. The most important factor is to quickly remove mustard agent from the body. Treatment consists of supportive medical care.
- Reporting:** Any suspect cases should be reported immediately to the Division of Public Health: 1-888-295-5156 (24/7 coverage).
- Additional information:** Visit the Centers for Disease Control and Prevention website: <https://emergency.cdc.gov/>.